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A Genius for Future War

Submitted By:
LTC James K. Greer

Course C5602

Faculty Seminar Leader
COL Sullivan

Faculty Advisor
COL Everett

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A Genius for Future War

As the United States Military approaches the 21st Century we have every reason to be proud and confident of our position in the world. We have had a tremendously successful century, twice saving the world for democracy, and generally translating our nation's policies into reality, whether in war, peace or in between. That is not to say we have always been victorious, but when we have not we have certainly learned from our mistakes and are a better force for it. And, we have every reason to believe we will still be able to carry out our nation's directives in the coming years. Still, nothing ever remains the same and the 21st Century will be no different in that respect. In fact, the impact of three emerging factors of change may be so great as to alter the very nature of war and how nations employ their armed forces. Those three factors are, the expansion of battlespace, the impact of information, and chaos and complexity. In light of the changing nature of war, we must continue to improve our Armed Forces to remain the finest military in the world and to continue to be the most effective possible instrument of national strategy. This improvement must encompass all facets of things military, including, organizations, operational concepts, technologies, readiness and training, our servicemen, and leadership.

Of the facets listed above, the most important is leadership. The best equipment, concepts, and servicemen can never realize their potential without the finest possible leadership, what Clausewitz called "a genius for war." In his theoretical work, On War, Clausewitz developed the nature of war, deriving from that nature the need for genius in war and the attributes of that genius. As we enter the 21st Century, we need a "Genius for Future War." While Clausewitz' attributes of genius in war (Courage, Strength, and Coup D'oeil) remain valid; to build genius for future war we must develop leaders who can excel as the nature of war adapts to the three critical change factors identified above. This paper reviews Clausewitz attributes of genius in war in the context of the nature of war. We then examine how the nature of war, and thus the attributes of genius, will change in the early 21st Century. Finally, we will suggest how the United States Armed Forces can develop "A Genius for Future War."

Clausewitz' Genius for War

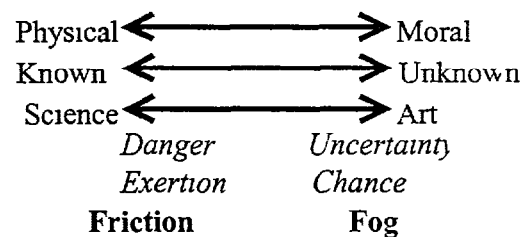
Clausewitz military world was, from our viewpoint, a relatively simple one of one dimensional, linear combat fought either on land or sea. While he clearly understood the nature of the full spectrum of conflict from guerrilla operations to total war, his focus was on major armies fighting national wars. Still most of his description of the nature of war remains valid today. He described that nature to be of two realms; physical and moral.¹ Any successful approach to the use of armed forces must of course address both realms. The physical realm was that of units, military maneuver and combat; one of physical exertion, privation, and fear of death. This realm was where the science of war was practiced, dealing with those aspects of war that could generally be known and quantified. Additionally, the physical realm was dominated by friction;

which he describes as "countless minor incidents - the kind you can never really foresee - combining to lower the general level of performance, so that one always falls short of the intended goal."²

On the other hand, the moral

realm of war was one of uncertainty, chance and fog. As Clausewitz states, "War is the realm of uncertainty; three quarters of the factors on which action in war is based are wrapped in a fog of greater or lesser uncertainty"³ Thus, the moral realm was far less determinate, ruled by chance and the unknown. It was in the moral realm that the art of war was practiced, enabling the genius to accomplish far more than mere strength of armies would suggest.

Clausewitz' Nature of War



¹ In the original German language On War was written moral means psychological vice a morality-based connotation. In this paper moral will be used in Clausewitz meaning unless otherwise noted.

² On War Carl von Clausewitz. Edited and translated by Michael Howard and Peter Paret (Princeton University Press, 1984) p. 119.

³ Ibid p. 101.

In Clausewitz' construct, genius for war requires mastery of both the physical and the moral realms. That genius has three attributes; courage, strength and coup d'oeil. Each of these attributes in turn has aspects that deal with each realm. Courage, for example, thus has two aspects, physical and moral, both absolutely required for genius. Physical courage is exactly that, courage in the face of battle, death and destruction; overcoming physical fear to lead soldiers. Moral courage is the courage to accept the responsibility for leadership. Clausewitz believed that physical courage was an attribute that, once attained, would last for a lifetime. In contrast, due to its psychological nature, courage to accept responsibility was susceptible to erosion and must be constantly renewed. The highest genius combined the two types of courage, enabling the leader to deal with both realms of war simultaneously.⁴

The attribute of strength also has physical and moral aspects. The physical aspect is "strength of will " Strength of will enables the commander to continue the military operation despite the death, destruction and suffering that his decisions cause. Observing the horrors his orders cause will wear down and break leaders who can not draw upon strength of will to carry them through to success. In contrast, the moral aspect is "strength of character " Strength of character is that which enables the genius to keep his focus and decision-making ability during times of exceptional stress and violent emotion. Thus, strength of character consists not solely in having powerful feelings, but in maintaining one's balance in spite of them.⁵

Coup d'oeil is probably the toughest of the attributes to comprehend. Coup d'oeil is the ability, in the midst of conflict, to see all the way through the problem presented and arrive, with only a few moments of thought, at a solution that will lead to success. It is the "gestalt" approach to military operations, seeing the entire campaign or battle as a unified whole, comprehending all of the difficulties and yet understanding how to chart a course to victory. To Clausewitz, war is an endeavor where time and space are compressed, so the true genius is able to accomplish this feat virtually instantly and without the benefit of staff processes and long study. In modern terms, we call the

⁴ Ibid

⁵ Ibid Paraphrase drawn from pp 104-107

output of coup d'oeil "commander's vision." Like courage and strength, coup d'oeil has both physical and mental aspects. The physical aspect of the vision is to correctly see not only the course of action to take in battle, campaign or strategic endeavor, but also how to overcome friction during execution. The moral aspect is more difficult. There coup d'oeil requires that genius see all the possible variations, branches and sequels to the initial vision that arise due to uncertainty, chance and the fog of war.⁶

The last requirement for Clausewitz' genius for war is the ability of the commander-in-chief (CINC) to be a statesman. This requirement is derived from Clausewitz linkage of war and politics. In his theory, it is impossible for the genius to truly comprehend what is required if he does not understand what the nation is attempting to accomplish and if all military activities are not directed toward that aim. However, while Clausewitz attributes of genius apply at every level of leadership from small units through armies, he only requires that the CINC have this quality. In his mental construct large armies carry out the strategy of kings and parliaments, with subordinate military leaders focusing on the execution of battles and engagements. Thus, it is the responsibility of the CINC alone to ensure the political-military linkage.⁷ Taken together courage, strength, coup d'oeil and statecraft are required for military genius in the physical and moral realms of Clausewitz' theory. The next step in deriving the genius for future war is to develop how the nature of war is changing from Clausewitz' construct.

The Nature of Future War

As we approach the 21st Century, there are three factors of change that seem to be altering the nature of war. Those factors are first the expansion of battlespace, that area in which military operations are conducted, into a multi-medium battlespace encompassing land, sea, air, space, electro-optical and psychological medium. The second factor is the impact of chaos and complexity theories on our understanding of how our world and in fact human endeavor operates. The third factor is the impact of

⁶ Ibid Coup d'oeil attribute developed by Clausewitz on pp 102-103

⁷ Ibid p 111

the Information Age on military operations. However, Clausewitz' description of the physical and moral realms of warfare remain valid. Additionally, his understanding of the spectrum of conflict is carried forward and in fact expanded to include military force without war at the lower end of the spectrum and thermo-nuclear war at the upper end of the spectrum.

The Expansion of Battlespace

During the five thousand years of recorded history prior to the Twentieth Century war was conducted primarily either on land or at sea. The great decisive battles of history that determined the fate of nations were most often fought on land (Hastings, Waterloo, and Gettysburg) or at sea (Nile, Spanish Armada, and Trafalgar). Only occasionally were battles conducted at the juncture of these two mediums. Such littoral battles usually took the form of amphibious invasions such as the Battle of Marathon in 490 B.C. or naval attacks such as the British and French attack on the Russian defenses of Sevastopol during the Crimean War in 1854. No capability existed to strike from land to sea unless in defense or if a foolish ship's captain strayed too close to shore batteries. Likewise, naval power only extended inland to the range of direct fire weapons, at the turn of the 20th Century about 5 miles. Limitations in weapons and technology restricted the ability of armies to attack navies and vice versa. Thus, Battlespace, that area in which armed forces conduct operations, was basically limited to a single medium.

However, since Clausewitz, but primarily in the Twentieth Century, there has been significant expansion in not just how, but more importantly, where warfare could be conducted. Early in this century, the Wright Brothers opened up the third dimension to warfare and the wide range of air operations in World War I solidified that position forever. Early proponents hoped that the ability to travel over and attack any point on the globe would make air forces the dominant force in war. While airpower has not proven to be a war winner in and of itself, the ability to control the skies and attack military and strategic targets from above is critical to any chance of success in almost all current conflicts. While warfare has always had a psychological component, in the

middle of this century Mao Tse Tung developed theories of psychological warfare that enabled his forces to successfully defeat a seemingly much more capable foe. Mao's theories were then successfully codified into doctrine and put into practice by the People's Army of Vietnam with significant results. In 1957, the Soviet Union's launch of the first satellite ensured that space would soon be a region of military operations and conflict. While thus far combat in space has been restrained, military development in a number of countries suggests that will not be the case in future conflicts. There appears to be no altitude limit on warfare. To complete the current expansion of battlespace, throughout the past century, what started out as simple line tapping of telegraph messages has developed into complex systems of attack and defense by electro-magnetic and other non-lethal means. Thus, in this century, warfare in each of six disparate mediums has gradually exhibited an increase in both operations and the application of combat power from one medium to another. In short, warfare is now conducted in an *expanded battlespace* that encompasses air, sea, land, space, psychological, and electro-optical medium.

The Impact of Information

During the last decade, the notion of the Information Age and Information Warfare have come to the fore. The introduction to the Information Age as the Third Wave of human development through the publishing of the Toffler's War and Anti-War⁸, the increased military use of information technologies, and the explosion of information sharing around the globe (whether in business or on the Internet) all served to signal a significant potential change to how and why we employ military force. There are many who see information itself as a military objective, a center of gravity, or means of attack and defense. Others see information as only an input, with no intrinsic value in and of itself, and the true importance of any information being attached to what is done with that information. We can be sure that the debate will continue as the Information Age

⁸ War and Anti-War Alvin and Heidi Toffler (Boston: Little Brown and Co, 1993), pp 8-11

changes the way our world lives and competes and as nation-states and other actors adapt to that change.

A more practical facet of the notion of an Information Age is its impact on the conduct of military operations. Clearly the key to successful exploitation of multi-medium actions will be weaving combinations of activities together into a single, unified operation. Since Alexander fought the Persians with spears, archers, slingers, cavalry and swordsmen such integration has remained a challenge for leaders. As battlespace has expanded and the menu of capabilities has grown, significantly more effort has been required to master combined arms operations. During the technological revolution of the Twentieth Century voice and analog communications have been the primary means of planning, coordinating, and executing operations of the various services and branches. However, the last two decades have seen the growth of a new and more promising means of integration. That means is the combination of computer-based automation with digital transmission of data. This "digitization" facilitates the manipulation of vast amounts of information for combat decision-making, weapons system employment, operational planning, synchronization of activities, logistical support, and developing a clear picture of what is happening. In other words, what the "chip" and global communications are doing for commerce and personal communication via the Internet, digitization will do for warfare -- vastly increase the scope, intensity, tempo, and efficiency of operations. In the 21st Century, digitization will replace voice communications as the primary means of integrating multi-medium operations. Digitization is so important to future operations, that many leading military nations are investing major portions of meager defense budgets on acquiring digital capabilities. Even more significant are the efforts being made to develop the capability to negate an enemy's digital information operations. Thus, information will be the second key factor that shapes the nature of future war.

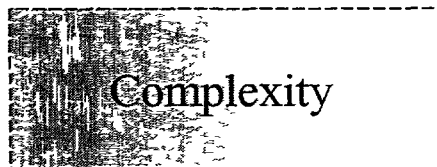
Linearity and Non-Linearity; Complexity and Chaos

This factor may be the toughest challenge of all, because there is a tendency for Americans and most Westerners to regard military activity from a linear, deterministic

approach. When we use the terms linear and non-linear, we are essentially talking on two levels. First, is graphical linearity, that is forces lined up with a clear line between friendly and enemy (such as Desert Storm) vice a non-linear situation with no clear boundaries and forces intermixed (such as Just Cause in Panama). That level of linearity is not the subject here. The armed forces of the United States have mastered this simple non-linearity. The second level is mathematical linearity, where problems can be solved with a definite answer and little uncertainty. That is to say that the greater the application of force, the greater the affect. However, during the last quarter of this century concepts such as mathematical non-linearity, chaos theory and complexity have begun to be associated with military affairs. This is because the outcome of applying of military force is as much determined by concepts such as fog, friction, uncertainty and chance as it is by how much combat power is applied. Soldiers, sailors and airmen have always known about the uncertainties in war and the great captains have been able to not only overcome uncertainty, but to take advantage of it.

Chaos and complexity cause us to look at the physical and moral realms of war from a slightly expanded perspective. All systems, both human and natural exist in a complex, adaptive state. These systems, whether individuals, armies or nations adapt themselves in a struggle to overcome the tendency towards chaos. Nowhere is this more true than in war or OOTW. The struggle in military operations becomes one of avoiding reversion to an equilibrium state where the system is incapable of acting or falling to a chaotic state where all control is lost. In between equilibrium and chaos are the complex physical and moral realms where systems must remain to be viable and exist. For example, the soldier frozen in fear is in equilibrium, totally ineffective. The unit that breaks and retreats falls into chaos and also loses its effectiveness.

Equilibrium



Chaos

Still, Americans and the American military like the scientific method and linearity in war. We are drawn to military theories that play to our strengths. We avidly seek theories that tell us if we can overmatch our opponent in manufacturing the tools of

war, synchronize combat power to mass overwhelming fire on an enemy or strike precisely the right target at the right time; we are sure to win. We base our doctrine on Jomini, Mahan and Mitchell vice Clausewitz, Corbett and Mao. However, complexity and chaos force us to deal with both the linear and complex world. We are forced to accept that complex systems tend toward chaos and increase, rather than decrease, friction in war. And, much as we are drawn to the promise of near perfect battlespace knowledge through information operations, we must understand that information itself breeds uncertainty, so that there will always be fog in war. As Clausewitz states, "we now know more, but this makes us more, not less uncertain."⁹ The success with which we develop genius to dominate others at the edge of chaos is the third key to the 21st Century.

Our brief development of the factors affecting the nature of future war illustrates how much more complicated 21st Century military operations will be than the simple construct of Clausewitz. The new construct is global vice theater, multi vice one-dimensional, joint vice single service, information-overloaded vice information-scarce, non-linear vice linear, yet still a construct of danger, exertion, uncertainty and chance. Expanded battlespace, equilibrium, complex adaptive systems, chaos, and information operations combine to place even greater demands on genius in war and military force without war. What that genius will entail and how we can develop genius for future war in the United States Armed Forces is the topic for the remainder of this paper.

A Genius for Future War

The true value of Clausewitz lies in the conclusion that, despite expanding battlespace, chaos, and information, future genius will still require all the attributes of genius developed by Clausewitz. What will be significant, however, is the scope of leader development required to produce genius in war and the breadth of knowledge and understanding required to gain coup d'oeil and execute military operations as an element of national power.

⁹ On War p 102

Joint and Coalition Genius

All operations in the future, regardless of where they fall in the spectrum of conflict will be joint in nature as the expanding battlespace tends toward a single, integrated battlespace. Therefore, expertise in the primary medium of service (Air Force, Army, Navy, Space, Information, and Psychological) will become the entry level skill of leaders. Initial education and experience during the early years of service will focus on developing the technical skills and small unit leadership required for excellence at the tactical level. Those same skills and leadership will yield the tactical building blocks required for fashioning joint, coalition and interagency campaigns and actions at the operational level. But, there will no longer be found genius in single-medium leadership. Early in the education and experience of officers they will branch out to understand operations in all the medium. This means mid-grade education (Command and Staff College-level) that is entirely joint and multi-service. It also means early assignment to joint staffs to imprint on the future genius a joint approach to all employment of military force. This trend will continue to include War College-level education and flag officer assignments, so that senior leaders will by nature think joint rather than service and multi- rather than single-medium.

Interagency Genius

While Clausewitz clearly understood that all military operations are only a component of the elements of national power, as we enter the 21st Century the echelon where that fact becomes important has changed considerably. Clausewitz had the luxury of saying only the CINC had to be a statesman. Now, however, the impact of the media and rapid, information-driven political decision-making is that leaders at every echelon must be statesmen. Whereas in Clausewitz time only the actions of armies had political results, in the 21st Century the actions of squads, teams, single aircraft and single ships will have significant political impact. Thus, at a minimum, mid-grade officers must be introduced to the workings of diplomacy. This means assignments working with governmental agencies (State Department, USAID, USIA, etc) to begin building an appreciation of statecraft, diplomacy and the interaction of the military with the other

elements of national power. This can easily be accomplished within a theater of assignment. For example, two years of duty with the fleet in the Mediterranean followed by a year at the Embassy in Cairo. As above, integration of flag rank education and service into an Inter-Agency approach will be an absolute necessity. The result of the education and experience outlined above will be to enable future genius to practice coup d'oeil, to continue to see in a single glance the joint, interagency and coalition possibilities of a situation, chart a course through the friction involved in these vastly more complicated operations and then carry that vision through to success.

Complex Genius

Far more difficult however, will be coup d'oeil in military operations in the world of equilibrium, complexity and chaos. Whereas the former requires vision in joint, interagency and coalition operations, the latter requires the ability to conceptualize that which is far more indeterminate, the possibilities and variations generated by the concept that *the only thing certain on the battlefield is uncertainty*. In the complex world, the challenge to our forces will be that of asymmetrical military operations. Given our dominance of land, sea, air and space, others will seek to challenge us where we are vulnerable in the electro-optical spectrum and in psychological operations. Note the success of the Peoples Army of Vietnam, whose civil-military operations defeated our nation despite the United States conventional force domination. The embarrassment of Somalia and the continued struggle to contain Weapons of Mass Destruction (WMD) development by Iraq illustrate the future limits of linear, physical thinking. The genius of the future will have to see and understand, in a single "gestalt" the niche capabilities adversaries may have that enable them to employ asymmetrical operations; to see and understand what can not be seen - psychological, informational and media - aspects of military force employment; and see and understand when and where our own military is vulnerable to the forces of equilibrium and chaos. This genius can only be developed by training future leaders throughout their careers to think "out of the box" so that becomes not the exception, but the rule. Tactical problems should be fought out using conventional operations, then reset and fought again using asymmetrical operations,

then reset and executed a third time using combinations of the two. This methodology should be applied across the entire spectrum of conflict, resulting in true genius who can master the complex and chaotic world of 21st Century military operations

Information Genius

Besides an expanded coup d'oeil, significant strength of will and character will be required to persevere in the fog and uncertainty of future information warfare and complex operations. The increased lethality and destruction of future information-based war will place great strains on the strength of will of our leaders, and may cause the people and government to alter their will as they too are drawn into the horror of war. Witness for example the impact of the Highway of Death, north of Kuwait City in the Gulf War. Not only was the horror evident to the soldiers and leaders on the immediate battlefield, video carried the images directly to the CINC and the President. Whereas Schwarzkopf was immediately aware of the result of his orders, 50 years earlier Eisenhower would have been spared the sight of equivalent destruction for weeks or months. And, while information technologies will streamline precision application of force, the result of the Information Age will likely be to cause more, rather than less, uncertainty at operational and strategic levels. So much information will be available and deception options so varied, that the future genius will be forced to make decisions with far less certainty than Napoleon had in any of his battles. The increased tempo of operations, both militarily and politically will further increase the stress on senior leaders, thus further attacking their strength of character. Development of strength of will and character will be a significant challenge. The generation of leaders entering service today will develop as true products of the Information Age. So long as their development is not constrained by older generation leaders and operational concepts, they will doubtless be perfectly at home in the information-dominated battlespace. The use of simulations and educational programs can replicate much of the stress on senior leaders caused by the increased tempo, uncertainty, civil-military interactions and complexity of future warfare. What simulations can not do, and really

only experience can provide, is to prepare leaders to persevere through the horrors of conflict.

Conclusion

Ultimately, future genius for war will rest on the ability to maintain military and political coherence while forcing the enemy, or in the case of OOTW other actors, into equilibrium or chaos. Future American genius must focus not just on what is done to the opponent, but also on how to maintain coherence in our own military and its relationship to the political component. Versatile and resilient leadership will result in versatile and resilient forces and systems capable of adapting to change, adversity and complexity and equally capable of dealing with uncertainty, chance, friction and fog. Genius thus will start with an understanding of the nature of future war. From that understanding of the nature of war, education and experience can lead to development of the attributes of physical and moral courage, strength of will and character, coup d'oeil and statecraft that will be absolutely essential for "A Genius for Future War."